



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/802,213	03/17/2004	Steven F. Livengood	A2507-US-NP	3559
75931 7590 12/11/2007 BASCH & NICKERSON LLP 1777 PENFIELD ROAD PENFIELD, NY 14526			EXAMINER CRUZ, IRIANA	
			ART UNIT 2625	PAPER NUMBER
			MAIL DATE 12/11/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/802,213

Applicant(s)

LIVENGOOD ET AL.

Examiner

Iriana Cruz

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 11/19/2007.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1-14** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding **Claims 1 and 6**, the applicant claims an "input data representing a color formed from only two primary colors..." and later on the same claim the applicant claims "the two-color input data in the form of two colors, a primary color and a secondary color..." It is unclear to particularly point out whether or not the color is formed from two primary color or form from a primary color and a secondary color.

Regarding **Claims 2-5, 7-14**: Claims 2-5, 7-14 are rejected under 112 35 U.S.C. 112, second paragraph, because they depend on rejected claims 1 and 6.

As best understood by examiner the following rejections apply.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1-6, 1-13 and 15** are rejected under 35 U.S.C. 102(b) as being anticipated by Tagami et al. (US Patent Number 5,237,425).

Regarding **Claim 1**, Tagami'425 discloses a method for converting input data representing a color formed from only two primary colors to output data representing a color in a full color space (i.e., from having two primary colors ((black and one of red blue or green)) to full colors ((combination of highlight colors/RGB)). See Column 1, Lines 20-22 and See Figure 26), comprising the steps of: receiving the two-color input data in the form of two colors, a primary color and a secondary color (i.e., from having two primary colors ((black and one of red or blue or green)) to full colors ((highlight colors/RGB)). See Column 1, Lines 20-22 and See Figure 26); mapping each color of the two-color input data to an equivalent color defined in the full color space by applying a first mapping function to each color of the two-color input data (i.e., the two input colors are mapped to its equivalent RGB colors on index, ink catalogs/palette . See Column 8, Lines 36-42 and See Figure 13); determining, from the two-color input data, a rendering characteristic for each of the primary color and the secondary color (i.e., rendering/screen characteristics/definition are given. See Column 6, Lines 54-56 and 66-68; See Column 7, Lines 6-13 and See Figures 10-11); based upon the rendering characteristics, and the primary and secondary colors, representing a combination of the primary and secondary colors, and the associated rendering characteristics (i.e., rendering/screen characteristics/definition are given. See Column 6, Lines 54-56 and 66-68; See Column 7, Lines 6-13 and See Figures 10-11), as an intermediate output (i.e., the rendering/screen characteristics implement the color. See Column 12, Lines 38-40; See Column 14, Lines 16-20 and See Figure 26); and processing the intermediate output using a second function to generate the output data representing a

single color defined in the full color space (i.e., the rendering/screen characteristic is the intermediate output that leads to getting the desired color. See Column 13, Lines 36-39).

Regarding **Claim 2**, Tagami'425 discloses the method wherein the first function is user-defined (i.e., the user defines the colors to be used on the catalogs where later the two input colors are going to be mapped. See Column 1, Lines 31-50).

Regarding **Claim 3**, Tagami'425 discloses a method wherein the user-defined function is a user-defined map from a highlight-color space to full-color space (i.e., the user can define palettes composed of full colors/RGB for mapping from highlight ((black, white and one of red or blue or green)) color to full color ((combination of highlight colors)) . See Column 1, Line 39-50).

Regarding **Claim 4**, Tagami'425 discloses a method wherein the step of representing a combination of the primary and secondary colors, and the associated rendering characteristics, as an intermediate output includes converting the secondary color into an HSV representation and applying the percentage of highlight to the HSV representation (i.e., the rendering/screen characteristic represents the intermediate output and the two input colors are converted applying percentages of highlight colors. See Column 7, Lines 43-50).

Regarding **Claim 5**, Tagami'425 discloses a method wherein the step of processing the intermediate output using a second function to generate the output data representing a single color defined in the full color space, includes applying a percentage black to the intermediate value and then converting the intermediate value

to a full-color representation using a programmatic function (i.e., for representing a color from the full color implementation percentages of black are added to the intermediate output. See Column 1, Lines 18-35 and See Column 7, Lines 43-60).

Regarding **Claim 6**, Tagami'425 discloses a method for converting input data representing a color formed from only two primary colors to output data representing a color formed from at least three colors (i.e., from having two primary colors ((black and one of red blue or green)) to at least three colors ((full color/RGB/Black and a highlight)). See Column 1, Lines 20-22 and See Figure 26), comprising the steps of; receiving the two-color input data in the form of two colors, a primary color and a secondary color(i.e., from having two primary colors ((black and one of red blue or green)) to at least three colors ((full color/RGB/Black and a highlight)). See Column 1, Lines 20-22 and See Figure 26); determining, for each color the two-color input data, and equivalent color defined in a full color space by applying a first function to each color of the two-color input data (i.e., the two input colors are mapped to its equivalent RGB colors on index, ink catalogs/palette . See Column 8, Lines 36-42 and See Figure 13); determining, from the two-color input data, a screen characteristic for the primary color and the secondary color (i.e., screen characteristics/definition are given. See Column 6, Lines 54-56 and 66-68; See Column 7, Lines 6-13 and See Figures 10-11); determining which screen characteristic is of a lesser value (i.e., a value is given to both colors ((black and one of red or green or blue)) and the one with lesser value is identified. See Column 7, Lines 43-59 ((values b and h)) and See Column 8, Lines 36-42 ((index 1 and 2))), and then determining if the lesser value is equal to zero (i.e., the

smaller value can be zero. See Column 8, Lines 36-50); if the lesser value screen characteristic is zero, generating an intermediate output that is a function of only one of the primary and secondary colors (i.e., when one of the values is zero the intermediate value is found for one of the two colors ((one primary used))). See Column 8, Lines 57-60), otherwise, generating an intermediate output that is a function of both the primary and secondary colors, wherein the intermediate output include a highlight color, a highlight color percentage and a black percentage (i.e., any color and percentages of any color and black. See Column 8, Lines 39-43 and 47-60) ; and processing the intermediate output using a second function to generate the output data representing a single color defines in at least three color space (i.e., the screen characteristic is the intermediate output that leads to getting the desired color. See Column 13, Lines 36-39).

Regarding **Claim 11**, Tagami'425 discloses a method wherein the screen characteristic is a percentage value (i.e., the screen characteristic can be represented by percentages of values. See Column 7, Lines 43-51).

Regarding **Claim 12**, Tagami'425 discloses a method wherein the step of receiving the two-color input data comprises locating the color data in an ink catalog and retrieving the data therefrom (i.e., the color data is found in the ink catalog. See Column 3, Lines 19-33 and See Column 9, Lines 4-10).

Regarding **Claim 13**, Tagami'425 discloses a method wherein the first function is user-defined. (i.e., the user defines the colors to be used on the catalogs where later the two input colors are going to be mapped. See Column 1, Lines 31-50).

Regarding **Claim 15**, Tagami'425 discloses a method of instructing a printing system which prints using at least three colorants to print a predetermined color defined using only a first and second color (i.e., from having two primary colors ((black and one of red blue or green)) the printer prints using at least three colors ((full color/RGB/Black and a highlight)). See Column 1, Lines 20-22 and See Figure 26), comprising the steps of: creating a schema to represent said first and second colors, said palette including, palette names and colorant names (i.e., there is ink catalogs with palettes that contain all the colors. See Column 4, Lines 35-65), for generating different colors; using a processor, determining, for each color of the two-color input data, an equivalent color defined in a full color space by applying a first function to each color of the two-color input data (i.e., the two input colors are mapped to its equivalent RGB colors on index, ink catalogs/palette . See Column 8, Lines 36-42 and See Figure 13); determining, from the two-color input data, a screen characteristic for the primary color and the secondary color (i.e., screen characteristics/definition are given. See Column 6, Lines 54-56 and 66-68; See Column 7, Lines 6-13 and See Figures 10-11); determining which screen characteristic is of a lesser value (i.e., a value is given to both colors ((black and one of red or green or blue)) and the one with lesser value is identified. See Column 7, Lines 43-59 ((values b and h)) and See Column 8, Lines 36-42 ((index 1 and 2))), and then determining if the lesser value is equal to zero; if the lesser screen characteristic is zero, generating an intermediate output that is a function of only one of the primary and secondary colors (i.e., when one of the values is zero the intermediate value is found for one of the two colors ((one primary used)). See Column 8, Lines 57-60), otherwise,



generating an intermediate output that is a function of both the primary and secondary colors, wherein the intermediate outputs include a highlight color, a highlight color percentage and a black percentage (i.e., any color and percentages of any color and black. See Column 8, Lines 39-43 and 47-60); and processing the intermediate output using a second function to generate the output data representing a single color defined in at least three color space and storing said output data in a schema (i.e., the screen characteristic is the intermediate output that leads to getting the desired color. See Column 13, Lines 36-39).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 14 and 16-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tagami et al. (US Patent Number 5,237,425) in view of Draaisma (US Publication Number 2003/0227638 A1).

Regarding **Claim 14**, Tagami'425 discloses a method where for converting input data representing a color formed from only two primary colors to output data representing a color formed from at least three colors (i.e., from having an input of two primary colors ((black and one of red blue or green)) to having an output of at least

three colors ((full color/RGB/Black and a highlight)). See Column 1, Lines 20-22 and See Figure 26).

Tagami'425 fails to show the method wherein the output data representing a single color defined in at least three color spaces is represented in the nature of an extensible markup language schema.

However, Draaisma'638 teaches a method wherein the output data representing a single color defined in at least three color space is represented in the nature of an extensible markup language schema (i.e., the printer uses the structural format/schema of extensible markup language/XML. See Paragraph 29).

Have the system of Tagami'425 and then given the well-established teaching of the Draaisma'638 , it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Tagami'425 as taught by the Draaisma'638, since with the extensible markup language helps not restricting the printer to just one format giving more format option for the image processing as suggested in Paragraph 29 of reference Draaisma'638.

Regarding **Claim 16**, Tagami'425 discloses a method of instructing a printing system which prints using at least three colorants to print a predetermined color defined using only a first and second color (i.e., from having two primary colors ((black and one of red blue or green)) the printer prints using at least three colors ((full color/RGB/Black and a highlight)). See Column 1, Lines 20-22 and See Figure 26).

Tagami'425 fails to show the method wherein said schema is represented in an extensible markup language.

However, Draaisma'638 teaches a method wherein said schema is represented in an extensible markup language (i.e., the printer uses the structural format/schema of extensible markup language/XML. See Paragraph 29).

Have the system of Tagami'425 and then given the well-established teaching of the Draaisma'638, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify the system of Tagami'425 as taught by the Draaisma'638, since with the extensible markup language helps not restricting the printer to just one format giving more format option for the image processing as suggested in Paragraph 29 of reference Draaisma'638.

Regarding **Claim 17**, the combination of Tagami'425 and Draaisma'638 discloses a method wherein the schema includes a color catalog which itself includes a plurality of palettes (i.e., an ink color catalogue that includes many palettes. See Column 3, Lines 15-21 and 45-54 on reference Tagami'425).

Regarding **Claim 18**, the combination of Tagami'425 and Draaisma'638 discloses a method wherein the palettes include colors defined in terms of a standard color model (See Column 4, Line 35-45 and 65-68 on reference Tagami'425).

Regarding **Claim 19**, the combination of Tagami'425 and Draaisma'638 discloses a method wherein the standard color model is sRGB (See Column 4, Line 6-15 on reference Tagami'425).

**Conclusion**

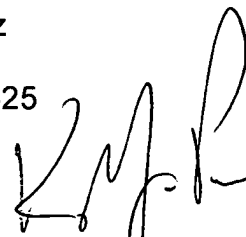
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Iriana Cruz whose telephone number is (571) 270-3246. The examiner can normally be reached on Monday-friday 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571) 272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 6, 2007

Iriana Cruz  
Examiner  
Art Unit 2625



KING Y. POON  
SUPERVISORY PATENT EXAMINER